REMARKS/ARGUMENTS

Upon entry of this amendment, which cancels claims 1-34 and adds new claims 35-56, claims 35-56 will be pending. In the Office Action, the drawings were objected to as failing to comply with 37 C.F.R. §1.84(p)(5); the abstract was objected to as exceeding the 150-word limit; claims 2, 5, 17, 19, 20 and 29 were objected to because of informalities; claims 26 and 28 were rejected under 35 U.S.C. §112, second paragraph, as lacking insufficient antecedent basis; and claims 1-34 were rejected under 35 U.S.C. §102(b) as being anticipated by Kelly et al. (U.S. Patent No. 5,832,205, hereinafter "Kelly").

Objections to the Drawings

The drawings were objected to as failing to comply with 37 C.F.R. §1.84(p)(5) because they did not include certain reference characters mentioned in the description. In response, applicants have amended the drawings to include the reference characters.

Additionally, the drawings were objected to for failing to comply with 37 C.F.R. §1.84(p)(5) because they included certain reference characters not mentioned in the description. Accordingly, applicants have amended the specification to include the reference character "software layer 206". Applicants respectfully request withdrawal of the objections to the drawings.

Objections to the Abstract

Applicants have amended the abstract to include less than 150 words.

Objections to the Claims

Claims 2, 5, 17, 19, 20, and 29 are objected to because of informalities. Applicants have cancelled claims 2, 5, 17, 19, 20 and 29, and thus the objections are moot.

Section 112 Rejections

Claims 26 and 28 were rejected under 35 U.S.C. §112. Claims 26 and 28 have been cancelled and thus the rejections are moot.

Section 102 Rejections

Claims 1-34 were rejected under 35 U.S.C. §102(b) as being anticipated by Kelly. Applicants have cancelled claims 1-34 and thus the rejection is moot.

New Claims 35-56

Applicants submit that the cited references does not disclose or suggest every element of new claims 35-56. For example, Kelly does not disclose or suggest:

> a documentation generator configured to generate documentation for optimized sequences of host operations, wherein the documentation describes operations required to calculate a corresponding foreign state for the appointed points;
>
> a documentation tracker configured to track an executable path of optimized sequences of host operations and record host operation addresses at appointed points of the host operation sequences being executed; and
>
> a recovery mechanism configured to use the documentation to continue foreign codes execution based on information in the documentation in case of the exception arisen during the execution of the corresponding optimized host codes.

Kelly discloses transferring the contents of all working registers to official target registers and allowing an operation called a rollback to quickly transfer the content of all official target registers back to their working register equivalents. A gated store buffer stores working memory state changes on an uncommitted side of a hardware gate and official memory state changes on a committed side of the hardware gate. *See Kelly*, col. 12, lines 41-52. If an exception occurs, the original state in the target registers at the last update (or commitment) may be recalled to the working registers and uncommitted memory stores in the gated store buffer are dumped. *See Kelly*, col. 12, line 66 - col. 13, line 5. Accordingly, Kelly does not disclose or suggest documentation generated that describes operations required to calculate a corresponding foreign state for the appointed points and using the documentation to continue foreign codes execution based on information in the documentation. Rather, Kelly discloses rolling back contents of official target registers back to the working registers' equivalents and dumping the uncommitted memory stores in the gated store buffer.

Kelly may disclose a gated store buffer that stores uncommitted store operations, which are committed to memory when no exceptions occur. When an exception occurs, a

rollback operation is performed and the uncommitted stores in the gated store buffer are dumped. Accordingly, the gated store buffer does not disclose or suggest documentation that describes operations required to calculate a foreign state for the appointed points and where the documentation is used to continue foreign codes execution based on information in the documentation.

Accordingly, applicants submit that claim 35 is allowable over the cited references. Claims 36-48 depend from claim 35 and are thus patentable over the cited references.

The cited references also do not disclose or suggest every element of new claim 45. For example, the cited references do not disclose or suggest "generating a set of documentations during the optimized translation of the foreign code, wherein each documentation in the set of documentations corresponds to a recovery point in the optimized binary translated code and describes operations required to calculate a corresponding foreign state for the recovery point." Claims 50-52 depend from claim 49 and are thus patentable over the cited references.

The cited references also do not disclose or suggest every element of claim 53. For example, Kelly does not disclose or suggest "a recovery point register" and a "means for saving a host instruction address into the recovery point register". Kelly does not disclose or suggest tracking commit points during optimized code execution. Rather than storing an address of the rollback operations performed, the transfer of the content of all official target registers back to the working register equivalents is performed. Thus, addresses at commit points are not stored. Accordingly, the cited references do not disclose or suggest every element of claim 53. Claims 54 and 56 depend from claim 53 and are thus patentable over the cited references.

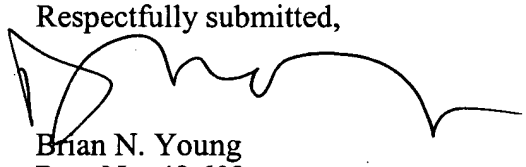
Also attached is a Request to Correct Inventorship Under 37 CFR 1.48(a) adding inventors Alexander V. Ermolovich and Valentin G. Tikhonov along with accompanying documentation. Applicants respectfully request that they be added.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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Attachments
BNY:jtc
60322090 v1

OIPE JC146
DEC 0 2 2004
PATENT & TRADEMARK OFFICE

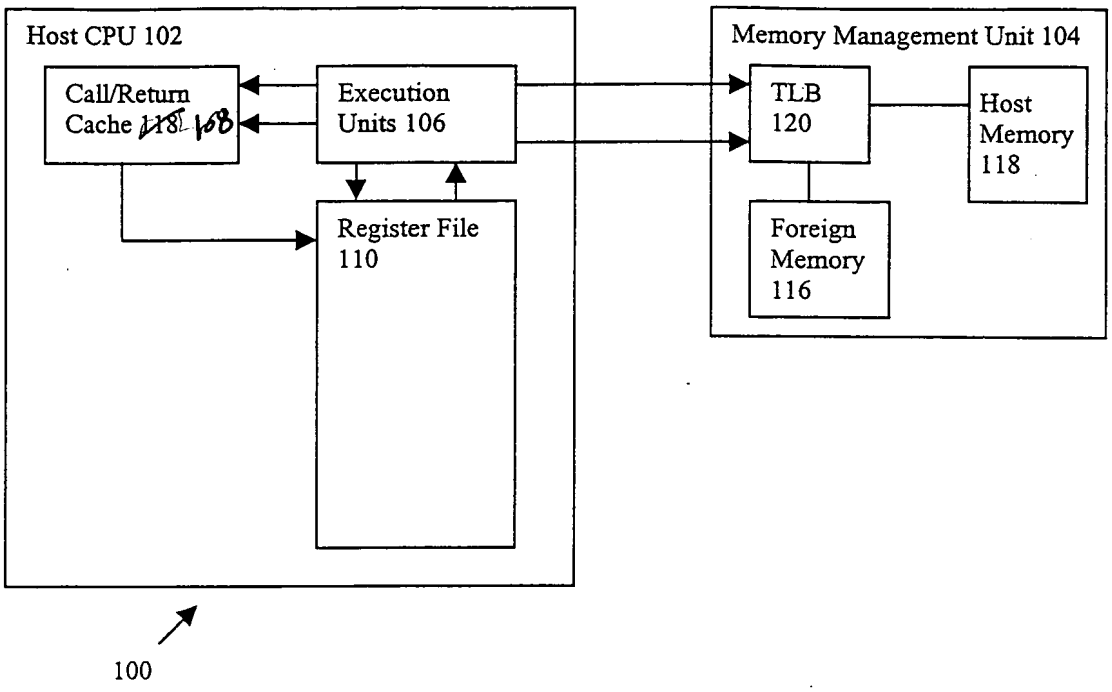

FIGURE 1

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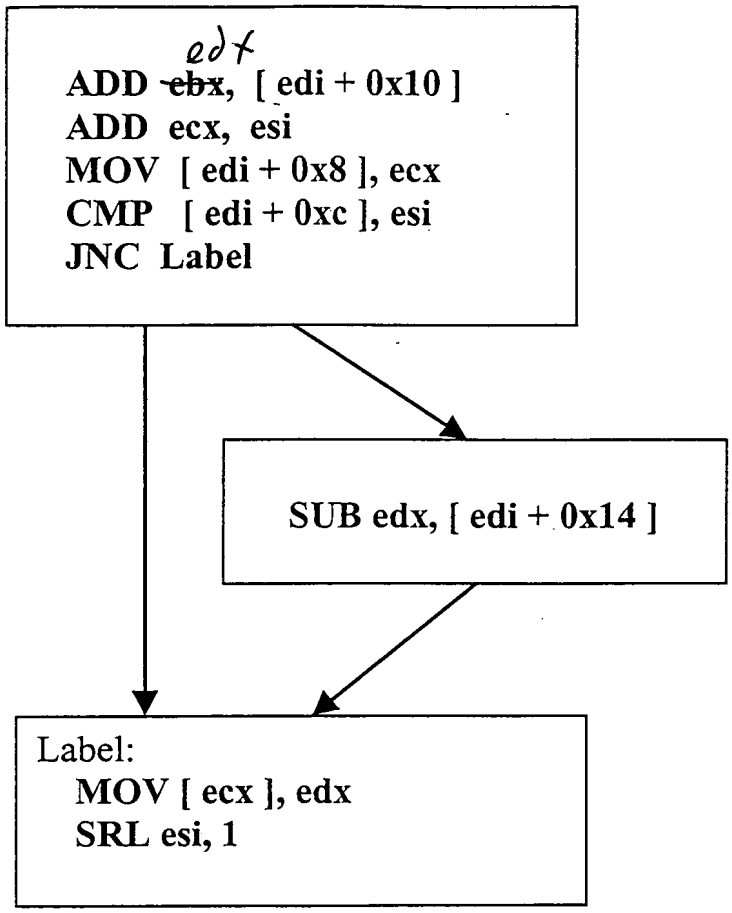

FIGURE 4

OIPE JC148
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PATENT & TRADEMARK OFFICE

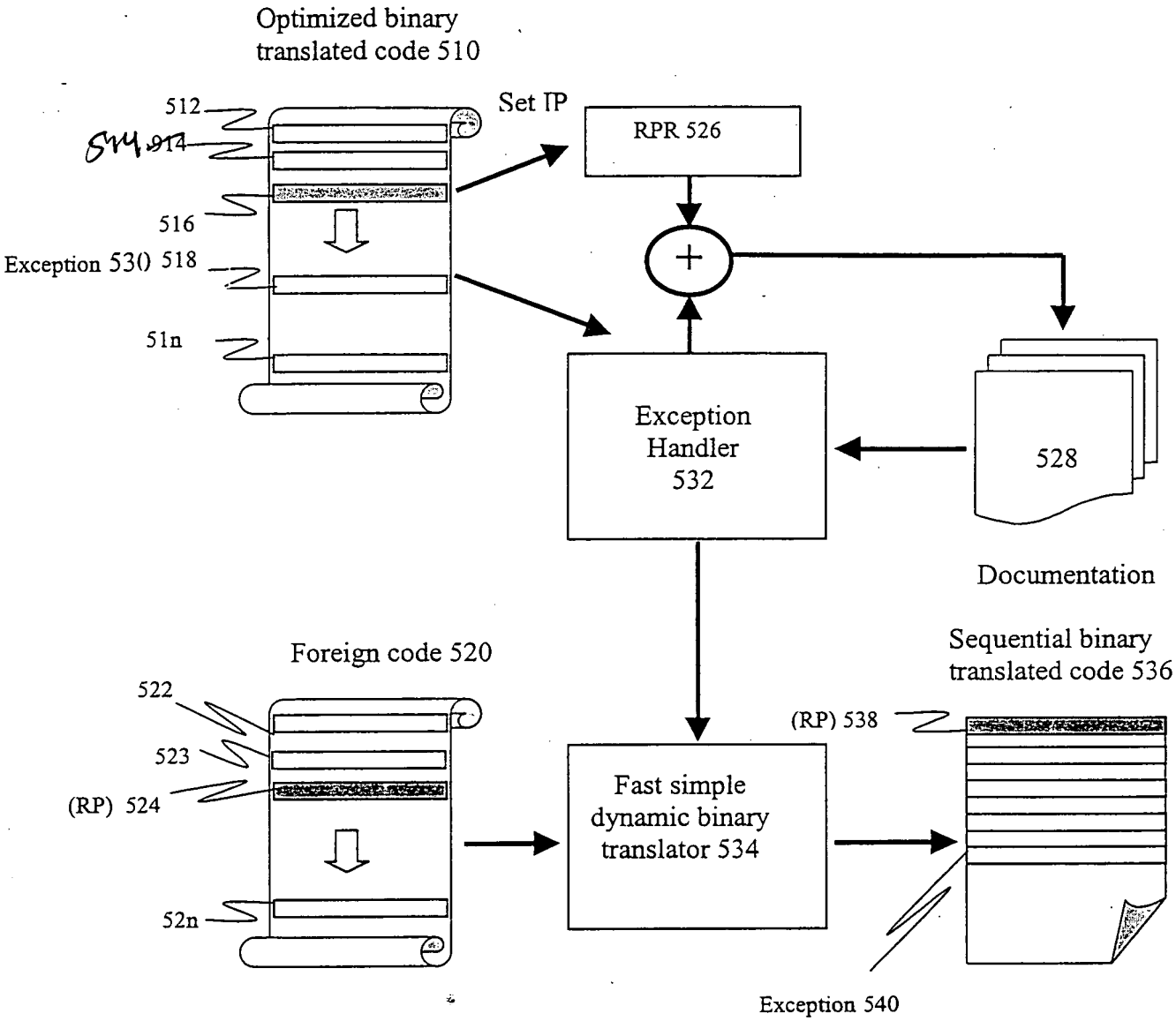

FIGURE 5